

Claims

1. A stereoscopic video image display apparatus including an image pick-up device for picking up the image of an object to be observed, a display device for displaying the video image which is picked up by said pick-up device and a stereoscopic video signal processing circuitry for processing and converting the video signal output from said image pick-up device into a signal which can be displayed on said display device, characterized in that said image pick-up device comprises right and left-eye image pick-up elements which pick up right and left-eye video images, respectively; and

in that said stereoscopic video signal processing circuitry comprises a video signal correction circuit which alternately corrects the right and left-eye video signals and a first switch for alternately switching the right and left-eye video signals to said video signal correction circuit.

2. A stereoscopic video image display apparatus as defined in Claim 1 characterized in that said display device comprises a right and left-eye display elements for displaying the right and left-eye video images, respectively; and in that said stereoscopic video signal processing circuitry comprises a second switch for separating said video signal output from said video signal correction circuit into right and left-eye video signals for supplying them to said right and left-eye display elements, respectively.

3. A stereoscopic video image display apparatus as defined in Claim 2, characterized in that said first and second switches switch the right and left-eye video signals in accordance with dot synchronization timing, horizontal synchronization timing or

vertical synchronization timing of the video signal.

4. A stereoscopic video image display apparatus as defined in Claim 2 or 3, characterized in that said image pick-up element picks up the video image along alternate scanning lines;

in that said video signal being supplied to said video signal correction circuit via said first switch,

in that said stereoscopic video signal processing circuit comprises a video combining and conversion circuit which combines a left-eye video signal output from said second switch with a left-eye video signal of previous frame along alternate scanning lines for outputting the combined video signal to said display device and combines a right-eye video signal output from said second switch with a right-eye video signal of previous frame along alternate scanning lines for outputting the combined video signal to said display device; and

in that said right and left-eye display elements update and display said combined right and left-eye video signals in accordance with a predetermined timing.

5. A stereoscopic video image display apparatus as defined in any one of Claims 1 to 4, characterized in that said video image correction circuit comprises an amplifier having a variable gain or an attenuator having a variable attenuation, so that the difference between the levels of the right and left-eye video signals is corrected by adjusting said gain and attenuation depending upon the output level of said video signal correction circuit.

6. A stereoscopic video image display apparatus as defined in any one of Claims 1 to 4, characterized in that said video signal

correction circuit includes a level shift circuit which is capable of shifting the direct current level of an input signal, so that the difference between the levels of the right and left-eye video signals is corrected by adjusting the direct current level of said input signal depending upon the direct current level of the output signal of said video signal correction circuit.

7. A stereoscopic video image display apparatus as defined in Claim 5 or 6 characterized in that said video signal correction circuit corrects the difference between the right and left-eye video signals by correcting the pedestal levels of both video signals and/or video signal level.

8. A stereoscopic video image display apparatus as defined in any one of Claims 1 to 7, characterized in that said video signal correction circuit comprises a color correction circuit which is capable of adjusting the tonality of the video signal to correct the difference between the tonality of the right and left-eye video signals.

9. A stereoscopic video signal processing apparatus as defined in any one of Claims 1 to 8, characterized in that said stereoscopic video signal processing circuit operates to cause said first switch to pass one of the right and left-eye video signals and operates to alternately switch said second switch.

10. A stereoscopic video signal processing circuitry for processing and converting right and left-eye video signals from right and left-eye image pick-up elements into a signal which can be displayed on a display device for displaying a stereoscopic video image, characterized

in that said stereoscopic video signal processing circuitry comprises a video signal correction circuit which alternately corrects the right and left-eye video signals and a first switch for alternately switching the right and left-eye video signals to said video signal correction circuit.

11. A stereoscopic video signal processing circuitry as defined in Claim 10 characterized in that said stereoscopic video signal processing circuitry comprises a second switch for separating said video signal output from said video signal correction circuit into right and left-eye video signals for supplying them to said right and left-eye display elements, respectively.

12. A stereoscopic video signal processing circuitry as defined in Claim 2, characterized in that said first and second switches switch the right and left-eye video signals in accordance with dot synchronization timing, horizontal synchronization timing or vertical synchronization timing of the video signal.

13. A stereoscopic video signal processing circuitry as defined in any one of Claims 10 to 12, characterized in that said video image correction circuit comprises an amplifier having a variable gain or an attenuator having a variable attenuation, so that the difference between the levels of the right and left-eye video signals is corrected by adjusting said gain and attenuation depending upon the output level of said video signal correction circuit.

14. A stereoscopic video signal processing circuitry as defined in any one of Claims 10 to 12, characterized in that said video signal correction circuit includes a level shift circuit which is capable of shifting the direct current level of an input signal,

so that the difference between the levels of the right and left-eye video signals is corrected by adjusting the direct current level of said input signal depending upon the direct current level of the output signal of said video signal correction circuit.

15. A stereoscopic video signal processing circuitry as defined in Claim 13 or 14 characterized in that said video signal correction circuit corrects the difference between the right and left-eye video signals by correcting the pedestal levels of both video signals and/or video signal level.

16. A stereoscopic video signal processing circuitry as defined in any one of Claims 10 to 15, characterized in that said video signal correction circuit comprises a color correction circuit which is capable of adjusting the tonality of the video signal to correct the difference between the tonality of the right and left-eye video signals.

17. A stereoscopic video signal processing circuitry as defined in any one of Claims 10 to 16, characterized in that said stereoscopic video signal processing circuitry operates to cause said first switch to pass one of the right-eye video signal and left-eye video signals and operates to alternately switch said second switch.